Neurology

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Chief Complaint

- “Rufus ” is a 3 year old neutered Dachshund who suddenly stopped eating last night. He did not want to go for his walk this morning. When forced to get up he walks very slowly with his tail down.

Rufus

History

- Up to date on all vaccinations
- Walks very slowly with his tail lowered
- Prefers to lay down all day in his box
- Refuses to jump up onto the couch
- Reluctant to go down the stairs
- Owner says this has happened once before but Rufus recovered by the next morning.

Physical Examination

- Temperature 38.5 degrees
- Heart Rate – 110/minute
- Some pain on palpation of the thoracolumbar area
- Spinal reflexes exaggerated (hyper)
- Proprioception deficits - placing reflex

Problem List

- Pain on palpation of thoracolumbar area
- Exaggerated spinal reflexes
- Proprioceptive Deficits – placing reflex
- Walks very slowly with his tail lowered
- Prefers to lay down all day in his box
- Refuses to jump up onto the couch
- Reluctant to go down the stairs

Rule Outs

- List all the Possible Diagnoses
- *This list is your Rule Out list*

Rule Outs

- Trauma
- Neoplasia
- Rabies
- Fibrocartilaginous Embolic Myelopathy (FEM)
- Degenerative Myelopathy
- Discospondylitis
- Intervertebral Disk Disease – Herniated Disk
- Lumbosacral Stenosis
- Botulism
- Exercise Induced Weakeness/Collapse Labradors
- Wobbler (Cervical Spondylomyelopathy)

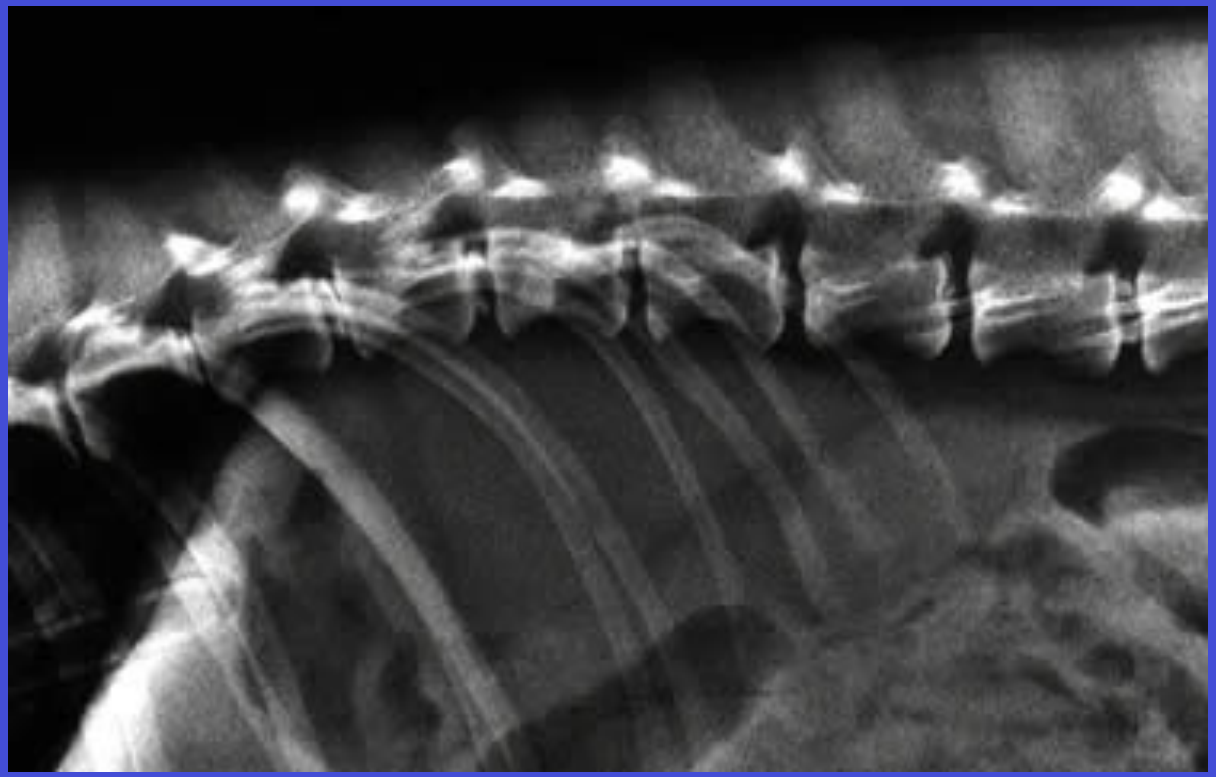
The Plan

- What is your PLAN ?

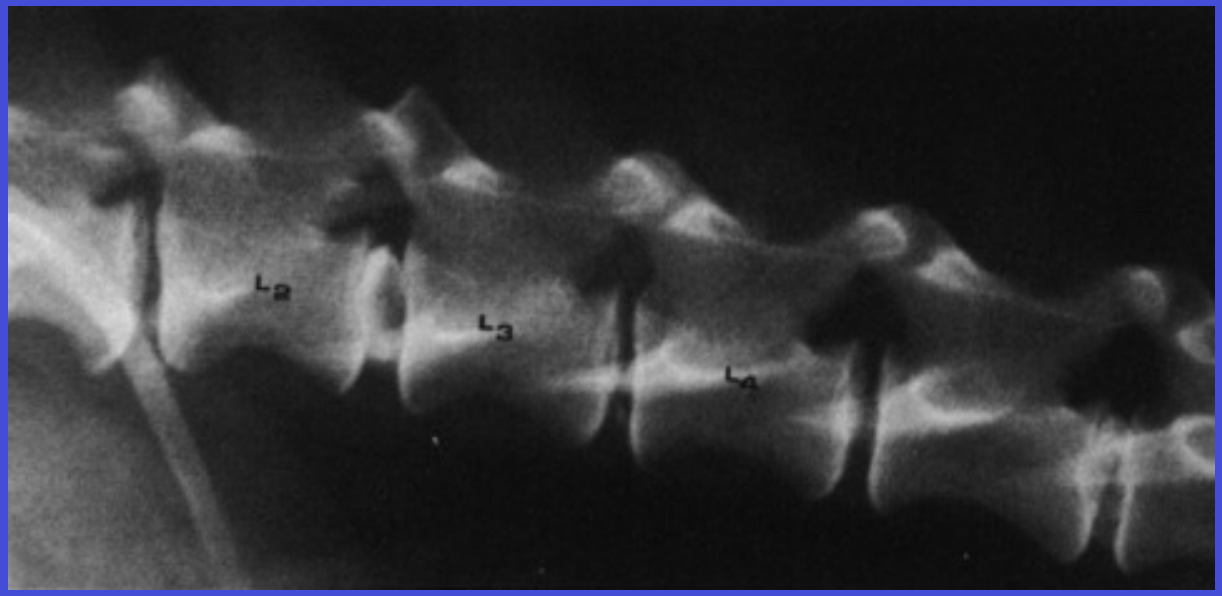
Plan

- Radiograph – Spine
  - Lateral view - T/L Junction
  - Lateral view - Lumbar Vertebra –
  - V/D of the entire spine – from T10 to L7

Thoracolumbar Area



Lumbar Radiograph



Why do you need to take separate views of the T/L Junction and the Lumbar Spine?

- Separate views of the T/L Junction and the Lumbar Spine?

Why do you need to take separate views of the T/L Junction and the Lumbar Spine?

- You must center the beam of your x-rays on the disk space (T/L junction or Lumbar spine) or you will see the disk space at an angle and therefore can't decide if the disk space is narrow or normal.
- Therefore you need to take separate views of the T/L junction and the lumbar spine so as not to view the disk space at an angle.

Radiograph Evaluation

- List all the Radiographic Lesions that you see on the previous radiographs

Radiographic Lesions

- Narrow disk space between T13-L1
- Narrow disk space L3-L4

- Narrow disk space represent a herniated disk

Rule Outs

- After evaluating the clinical signs and radiographs which diseases can you rule out?

Rule Outs

- Trauma
- Neoplasia
- Rabies
- Fibrocartilaginous Embolic Myelopathy (FEM)
- Degenerative Myelopathy
- Discospondylitis
- Intervertebral Disk Disease – Herniated Disk
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Rule Outs Likely or Unlikely

- Trauma- unlikley no history of trauma
- Neoplasia −unlikely none seen on radiograph
- Rabies − unlikely - ascending bilateral posterior paralysis
- Fibrocartilaginous Embolic Myelopathy (FEM) − likely − fits the clnical signs
- Degenerative Myelopathy unlikely − progressive ataxia − German Shepherds

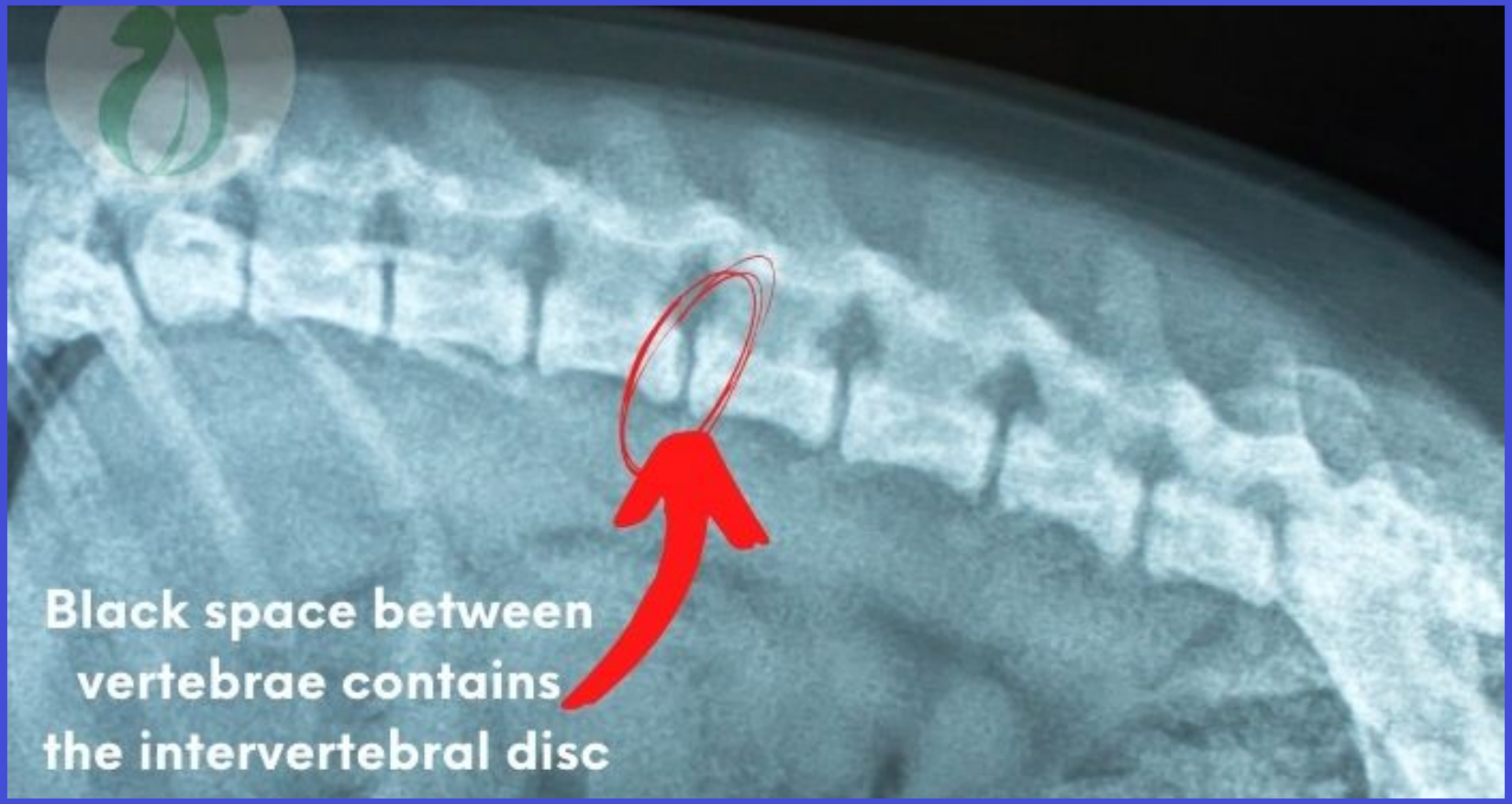
Rule Outs Likely or Unlikely

- Discospondylitis – unlikely no osteolysis of the discs.
- Intervertebral Disc Disease – unlikely herniated disc – no narrowing of disc spaces on radiograph
- Lumbosacral Stenosis – unlikely – usually large breed dogs. pain on lifting the tail
- Botulism – unlikely- flaccid paralysis
- Exercise Induced Weakeness/Collapse Labradors – unlikely – recovers quickly on rest
- Wobbler (Cervical Spondylomyelopathy) unlikely – neck pain, progressive incoordination hind legs, progressing to the forelimbs, no radiographic lesions

Final Diagnosis

- What is your final diagnosis?

IVDD


Black space between
vertebrae contains
the intervertebral disc

Final Diagnosis

- Intervertebral Disk Disease (Herniated Disk) at T13-L1 and L3-L4

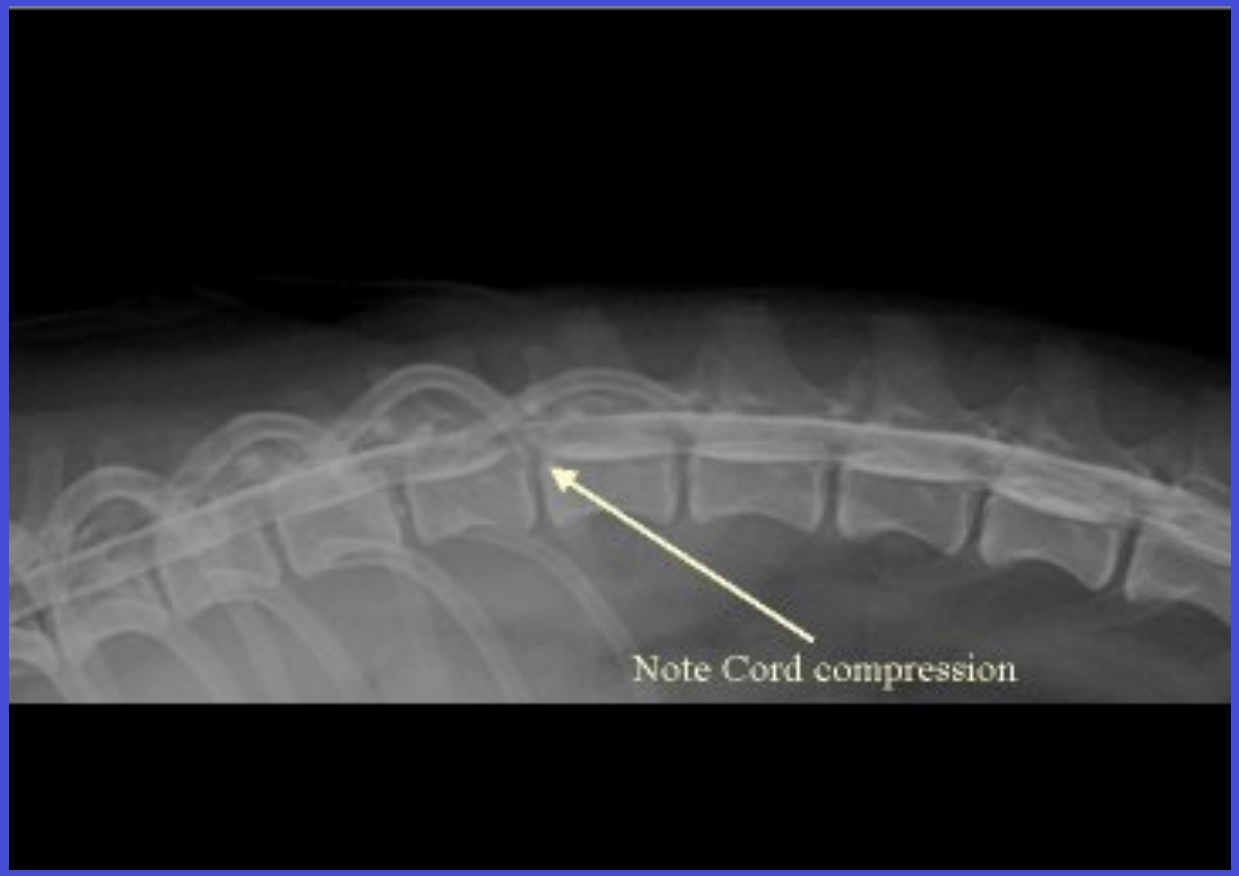
What additional Tests/Procedures could you use to confirm your diagnosis

- Additional Tests/Procedures used for confirmation?

Additional Tests/Procedures used for confirmation

- Myelography – a dye is injected into the sub-arachnoid space. See the next slide
- Computed Tomography - CT Scan
- Magnetic Resonance Imaging. - MRI

Myelography



What are the Two Types of Herniated Disks?

- Types of Herniated Disks?

Hansen Type 1 and Type 11

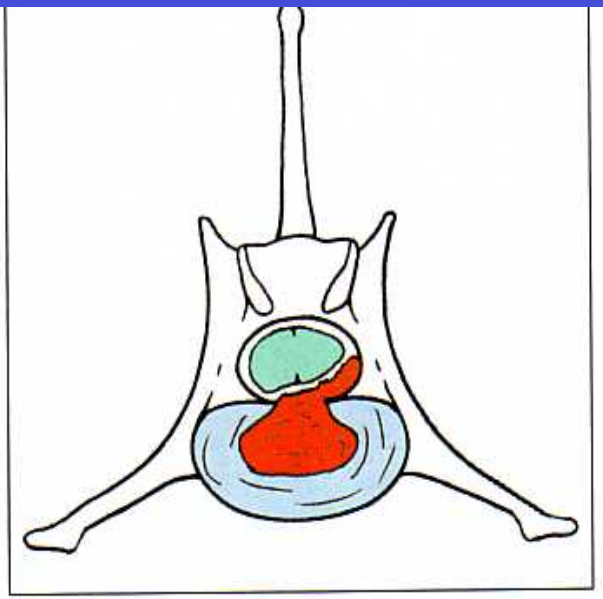


Figure 1A—Hansen type I herniation

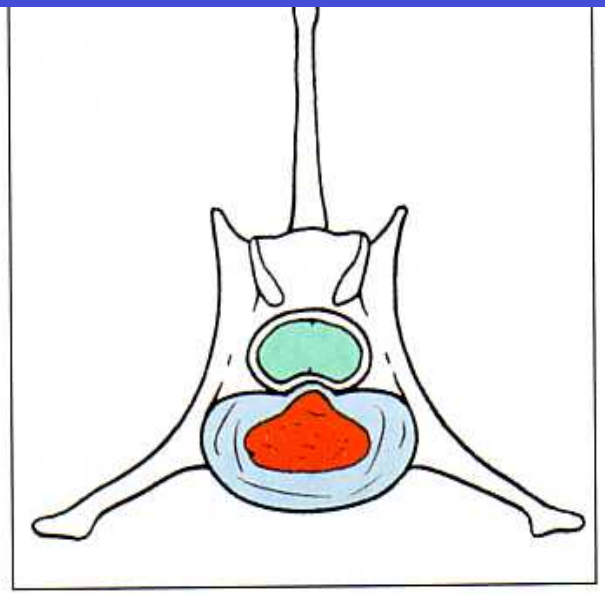


Figure 1B—Hansen type II herniation

Figure 1—(A) Acute Hansen type I disk herniation, resulting in both concussive and compressive injury (disk material and hematoma remaining in the vertebral canal) to the spinal cord. **(B)** Slow, progressive Hansen type II herniation, which mainly results in compression of the spinal cord. *Blue* = annulus fibrosis; *green* = compressed spinal cord; *red* = nucleus pulposus.

What is your Treatment Plan?

- What is your treatment plan?

Treatment Plan

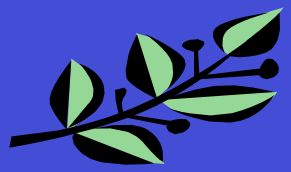
- Medical/Conservative Treatment:
  - Rest and Confinement
  - NSAIDS - Meloxicam
  - *** NEVER USE STEROIDS AND NSAIDS TOGETHER
- Surgical Correction

What is the Prognosis?

- What will you tell the client about the prognosis?

Prognosis?

- Dogs with paresis – Fair prognosis – tend to reoccur with medical treatment.
- Dogs with paralysis and deep pain – surgery is the treatment of choice – fair prognosis.
- Dog with paralysis that lackdeep pain – poor prognosis with medical treatment and guarded prognosis with surgery,



The End